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      <212> PRT
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      <400> 297
Ser Cys Gln Lys Lys Phe Ala Arg Ser
      <210> 298
      <211> 9
      <212> PRT
      <213> Mus musculus
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Ser Asp Val Arg Asp Leu Asn Ala Leu
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Ser Leu Gly Glu Gln Gln Tyr Ser Val
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Thr Cys Gln Arg Lys Phe Ser Arg Ser
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     <211> 9
     <212> PRT
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     <400> 301
Thr Glu Gly Gln Ser Asn His Gly Ile
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      <213> Mus musculus
     <400> 302
Thr Leu His Phe Ser Gly Gln Phe Thr
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      <210> 303
      <211> 9
      <212> PRT
      <213> Mus musculus
     <400> 303
Thr Leu Val Arg Ser Ala Ser Glu Thr
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      <210> 304
      <211> 9
      <212> PRT
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Val Leu Asp Phe Ala Pro Pro Gly Ala
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Trp Asn Gln Met Asn Leu Gly Ala Thr
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      <211> 9
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      <213> Mus musculus
     <400> 306
Tyr Phe Lys Leu Ser His Leu Gln Met
      <210> 307
      <211> 9
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      <213> Mus musculus
      <400> 307
Tyr Gln Met Thr Ser Gln Leu Glu Cys
      <210> 308
      <211> 9
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      <213> Mus musculus
     <400> 308
Tyr Ser Ser Asp Asn Leu Tyr Gln Met
      <210> 309
      <211> 6
      <212> PRT
      <213> Homo sapien
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Gly Ala Ala Gln Trp Ala
     <210> 310
     <211> 12
     <212> PRT
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Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro
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Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly
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      <211> 5
      <212> PRT
      <213> Homo sapien
     <400> 312
His Ala Ala Gln Phe
     <210> 313
      <211> 32
      <212> PRT
      <213> Homo sapien
      <400> 313
Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu
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               5
Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu
          20
      <210> 314
      <211> 32
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      <213> Homo sapien
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Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg
1
                5
                                   10
Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser
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      <211> 4
      <212> PRT
      <213> Homo sapien
     <400> 315
Arg Tyr Phe Lys
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      <211> 14
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      <213> Homo sapien
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Glu Arg Arg Phe Ser Arg Ser Asp Gln Leu Lys Arg His Gln
      <210> 317
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      <213> Homo sapien
      <400> 317
Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr
                                   10
His Thr Gly Lys Thr Ser
           20
     <210> 318
      <211> 21
      <212> PRT
      <213> Homo sapien
      <400> 318
Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His His Asn
                                  10
Met His Gln Arg Asn
      <210> 319
      <211> 449
      <212> PRT
      <213> Homo sapien
      <400> 319
Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro
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Ser Leu Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala
Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr
                            40
Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro
                        55
                                            60
Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly
                   70
                                       75
Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe
                                   90
Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe
                               105
Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe
                           120
Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile
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140
                      135
   130
Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr
                       155 160
        150
Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe
                                170
Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln
                             185
          180
Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser
                          200
Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp
                      215
                                         220
Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln
                   230
                                     235
Met Asn Leu Gly Ala Thr Leu Lys Gly Val Ala Ala Gly Ser Ser Ser
                                 250
              245
Ser Val Lys Trp Thr Glu Gly Gln Ser Asn His Ser Thr Gly Tyr Glu
          260
                             265
Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile
                      280
His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro
                     295
                                         300
Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys
                                     315
                  310
Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys
                                  330
               325
Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro
           340
                              345
Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Ser Arg Ser Asp
                         360
Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln
                      375
Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr
                                     395
                  390
His Thr Arg Thr His Thr Gly Lys Thr Ser Glu Lys Pro Phe Ser Cys
                                  410
              405
Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val
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Arg His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala
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Leu
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     <211> 449
     <212> PRT
     <213> Mus musculus
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<400> 320

 Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Ser

 1
 5
 10
 15

 Ser Leu Gly Gly Gly Gly Gly Cys Gly Leu Pro Val Ser Gly Ala Ala
 20
 25
 30

 Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr
 35
 40

Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Leu His Phe 8.5 Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Thr Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Ala Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly Met Ala Ala Gly Ser Ser Ser Ser Val Lys Trp Thr Glu Gly Gln Ser Asn His Gly Ile Gly Tyr Glu Ser Asp Asn His Thr Ala Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Ser Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Ser Arg Ser Asp Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Lys Thr Ser Glu Lys Pro Phe Ser Cys Arg Trp His Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arq His His Asn Met His Gln Arg Asn Met Thr Lys Leu His Val Ala Leu

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      <213> Homo sapien and Mus musculus
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Pro Ser Gln Ala Ser Ser Gly Gln Ala
     <210> 322
      <211> 9
      <212> PRT
      <213> Homo sapien and Mus musculus
      <400> 322
Ser Ser Gly Gln Ala Arg Met Phe Pro
      <210> 323
      <211> 9
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      <213> Homo sapien and Mus musculus
     <400> 323
Gln Ala Arg Met Phe Pro Asn Ala Pro
1
                5
      <210> 324
      <211> 9
      <212> PRT
      <213> Homo sapien and Mus musculus
     <400> 324
Met Phe Pro Asn Ala Pro Tyr Leu Pro
      <210> 325
      <211> 9
      <212> PRT
      <213> Homo sapien and Mus musculus
      <400> 325
Pro Asn Ala Pro Tyr Leu Pro Ser Cys
      <210> 326
      <211> 9
      <212> PRT
      <213> Homo sapien and Mus musculus
      <400> 326
Ala Pro Tyr Leu Pro Ser Cys Leu Glu
                5
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<211> 1029
<212> DNA
<213> Homo sapiens
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tgcggtccgt gcaaaatgat cgccccgatt ctggatgaaa tcgctgacga atatcagggc 180
aaactgaccg ttgcaaaact gaacatcgat caaaaccctg gcactgcgcc gaaatatggc 240
atccgtggta tcccgactct gctgctgttc aaaaacggtg aagtggcggc aaccaaagtg 300
ggtgcactgt ctaaaggtca gttgaaagag ttcctcgacg ctaacctggc cggttctggt 360
totggccata tgcagcatca ccaccatcac cacgtgtcta tcgaaggtcg tgctagctct 420
ggtggcagcg gtctggttcc gcgtggtagc tctggttcgg gggacgacga cgacaaatct 480
agtaggeaca geacagggta egagagegat aaceacacaa egeceateet etgeggagee 540
caatacagaa tacacacgca cggtgtcttc agaggcattc aggatgtgcg acgtgtgcct 600
ggagtagece egactettgt aeggteggea tetgagaeca gtgagaaaeg eccetteatg 660
tgtgcttacc caggctgcaa taagagatat tttaagctgt cccacttaca gatgcacagc 720
aggaagcaca ctggtgagaa accataccag tgtgacttca aggactgtga acgaaggttt 780
tttcgttcag accagetcaa aagacaccaa aggagacata caggtgtgaa accattccag 840
tgtaaaactt gtcagcgaaa gttctcccgg tccgaccacc tgaagaccca caccaggact 900
catacaggtg aaaagccctt cagctgtcgg tggccaagtt gtcagaaaaa gtttgcccgg 960
tcagatgaat tagtccgcca tcacaacatg catcagagaa acatgaccaa actccagctg 1020
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<213> Homo sapiens
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tgcggtccgt gcaaaatgat cgcccgatt ctggatgaaa tcgctgacga atatcagggc 180
aaactgaccg ttgcaaaact gaacatcgat caaaaccctg gcactgcgcc gaaatatggc 240
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ggtgcactgt ctaaaggtca gttgaaagag ttcctcgacg ctaacctggc cggttctggt 360
tetggecata tgeageatea ceaceateae caegtgteta tegaaggteg tgetagetet 420
ggtggcagcg gtctggttcc gcgtggtagc tctggttcgg gggacgacga cgacaaatct 480
agtaggggct ccgacgttcg tgacctgaac gcactgctgc cggcagttcc gtccctgggt 540
ggtggtggtg gttgcgcact gccggttagc ggtgcagcac agtgggctcc ggttctggac 600
ttegeacege egggtgeate egeataeggt teeetgggtg gteeggeace geegeeggea 660
ccgccgccgc cgccgccgcc gccgccgcac tccttcatca aacaggaacc gagctggggt 720
ggtgcagaac cgcacgaaga acagtgcctg agcgcattca ccgttcactt ctccggccag 780
ttcactggca cageeggage etgtegetae gggeeetteg gteeteetee geeeageeag 840
gegteateeg geeaggeeag gatgttteet aacgegeeet acetgeeeag etgeetegag 900
agccagcccg ctattcgcaa tcagggttac agcacggtca ccttcgacgg gacgcccagc 960
tacggtcaca cgccctcgca ccatgcggcg cagttcccca accactcatt caagcatgag 1020
gateceatgg gecageaggg etegetgggt gageageagt acteggtgee geceeeggte 1080
tatggctgcc acacccccac cgacagctgc accggcagcc aggctttgct gctgaggacg 1140
ccctacagca gtgacaattt ataccaaatg acatcccagc ttgaatgcat gacctggaat 1200
                                                                  1233
cagatgaact taggagccac cttaaagggc tga
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<213> Homo sapiens
<400> 329
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tttgacacgg atgtactcaa agcggacggg gcgatcctcg tcgatttctg ggcagagtgg 120
tgcggtccgt gcaaaatgat cgccccgatt ctggatgaaa tcgctgacga atatcagggc 180
aaactgaccg ttgcaaaact gaacatcgat caaaaccctg gcactgcgcc gaaatatggc 240
atccqtqqta tcccqactct qctqctqttc aaaaacqqtq aaqtqqcqqc aaccaaaqtq 300
ggtgcactgt ctaaaggtca gttgaaagag ttcctcgacg ctaacctggc cggttctggt 360
tetggecata tgcagcatca ccaccatcac cacgtgtcta tcgaaggtcg tgctagctct 420
ggtggcageg gtetggttee gegtggtage tetggttegg gggaegaega egaeaaatet 480
agtaggatgg geteegaegt tegtgaeetg aaegeaetge tgeeggeagt teegteeetg 540
ggtggtggtg gtggttgcgc actgccggtt agcggtgcag cacagtgggc tccggttctg 600
gacttegeae egeegggtge ateegeatae ggtteeetgg gtggteegge aeegeegeeg 660
gcaccgccgc cgccgccgcc gccgccgccg cactccttca tcaaacagga accgaqctgg 720
ggtggtgeag aaccgcacga agaacagtge etgagegeat teaccgttea etteteegge 780
cagttcactg gcacageegg ageetgtege taegggeeet teggteetee teegeeeage 840
caggogteat coggocagge caggatgttt cetaacgege cetacetgee cagetgeete 900
gagagecage cegetatteg caateagggt tacageacgg teacettega egggaegeee 960
agetacggte acaegecete geaccatgeg gegeagttee ceaaccaete atteaageat 1020
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gtctatggct gccacaccc caccgacage tgcaccggca gccaggcttt gctgctgagg 1140
acgccctaca gcagtgacaa tttataccaa atgacatccc agcttgaatg catgacctgg 1200
aatcagatga acttaggagc caccttaaag ggccacagca cagggtacga gagcgataac 1260
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gagaccagtg agaaacgccc cttcatgtgt gcttacccag gctgcaataa gagatatttt 1440
aagctgtccc acttacagat gcacagcagg aagcacactg gtgagaaacc ataccagtgt 1500
gacticaagg actgtgaacg aaggttitt cgttcagacc agctcaaaag acaccaaagg 1560
agacatacag gtgtgaaacc attccagtgt aaaacttgtc agcgaaagtt ctcccggtcc 1620
gaccacctga agacccacac caggactcat acaggtgaaa agcccttcag ctgtcggtgg 1680
ccaagttgtc agaaaaagtt tgcccggtca gatgaattag tccgccatca caacatgcat 1740
                                                                  1776
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<211> 771
<212> DNA
<213> Homo sapiens
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tgggctccgg ttctggactt cgcaccgccg ggtgcatccg catacggttc cctgggtggt 180
coggcaccgc cgccggcacc gccgccgccg ccgccgccgc cgccgcactc cttcatcaaa 240
caggaaccga gctggggtgg tgcagaaccg cacgaagaac agtgcctgag cgcattcacc 300
gttcacttct ccggccagtt cactggcaca gccggagcct gtcgctacgg gcccttcggt 360
cctcctccgc ccagccaggc gtcatccggc caggccagga tgtttcctaa cgcgccctac 420
etgeccaget geetegagag ceageceget attegeaate agggttacag caeggteace 480
ttegaeggga egeceageta eggteaeaeg eeetegeaee atgeggegea gtteeeeaae 540
cactcattca agcatgagga teceatggge cageaggget egetgggtga geageagtae 600
teggtgeege ceeeggteta tggetgeeae acceeeaeeg acagetgeae eggeageeag 660
getttgetge tgaggaegee etacageagt gaeaatttat accaaatgae ateceagett 720
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195

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qaatqcatqa cctqqaatca qatqaactta qqaqccacct taaaqqqctq a
                                                                  771
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<211> 567
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<213> Homo sapiens
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gatgtgcgac gtgtgcctgg agtagccccg actcttgtac ggtcggcatc tgagaccagt 180
gagaaacgcc ccttcatgtg tgcttaccca ggctgcaata agagatattt taagctgtcc 240
cacttacaga tgcacagcag gaagcacact ggtgagaaac cataccagtg tgacttcaag 300
gactgtgaac gaaggttttt tcgttcagac cagctcaaaa gacaccaaag gagacataca 360
ggtgtgaaac cattccagtg taaaacttgt cagcgaaagt tctcccggtc cgaccacctg 420
aagacccaca ccaggactca tacaggtgaa aagcccttca gctgtcggtg gccaagttgt 480
cagaaaaagt ttgcccggtc agatgaatta gtccgccatc acaacatgca tcagagaaac 540
atgaccaaac tccagctggc gctttga
                                                                   567
<210> 332
<211> 342
<212> PRT
<213> Homo sapiens
<400> 332
Met Gln His His His His His Met Ser Asp Lys Ile Ile His Leu
                                     10
Thr Asp Asp Ser Phe Asp Thr Asp Val Leu Lys Ala Asp Gly Ala Ile
             20
                                 25
                                                      30
Leu Val Asp Phe Trp Ala Glu Trp Cys Gly Pro Cys Lys Met Ile Ala
Pro Ile Leu Asp Glu Ile Ala Asp Glu Tyr Gln Gly Lys Leu Thr Val
                         55
                                             60
Ala Lys Leu Asn Ile Asp Gln Asn Pro Gly Thr Ala Pro Lys Tyr Gly
                     70
                                         75
Ile Arg Gly Ile Pro Thr Leu Leu Phe Lys Asn Gly Glu Val Ala
Ala Thr Lys Val Gly Ala Leu Ser Lys Gly Gln Leu Lys Glu Phe Leu
            100
                                105
                                                     110
Asp Ala Asn Leu Ala Gly Ser Gly Ser Gly His Met Gln His His His
                                                125
        115
                            120
His His His Val Ser Ile Glu Gly Arg Ala Ser Ser Gly Gly Ser Gly
                        135
                                            140
Leu Val Pro Arg Gly Ser Ser Gly Ser Gly Asp Asp Asp Lys Ser
                    150
                                        155
Ser Arg His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile
                165
                                    170
Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe Arg Gly
            180
                                185
                                                    190
Ile Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg
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200

```
Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro
                     215
Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met His Ser
                230
                         235
Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys
                     250
             245
Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg His Gln Arg Arg
                 265
His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe
                         280
Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Glu
                     295
Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg
       310
                            315
Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn Met Thr
             325
                                330
Lys Leu Gln Leu Ala Leu
          340
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<210> 333 <211> 410 <212> PRT

<213> Homo sapiens

<400> 333

Met Gln His His His His His Met Ser Asp Lys Ile Ile His Leu 10 Thr Asp Asp Ser Phe Asp Thr Asp Val Leu Lys Ala Asp Gly Ala Ile 25 Leu Val Asp Phe Trp Ala Glu Trp Cys Gly Pro Cys Lys Met Ile Ala 40 Pro Ile Leu Asp Glu Ile Ala Asp Glu Tyr Gln Gly Lys Leu Thr Val 55 Ala Lys Leu Asn Ile Asp Gln Asn Pro Gly Thr Ala Pro Lys Tyr Gly 70 75 Ile Arg Gly Ile Pro Thr Leu Leu Phe Lys Asn Gly Glu Val Ala 8.5 90 Ala Thr Lys Val Gly Ala Leu Ser Lys Gly Gln Leu Lys Glu Phe Leu 100 105 Asp Ala Asn Leu Ala Gly Ser Gly Ser Gly His Met Gln His His 120 125 His His His Val Ser Ile Glu Gly Arg Ala Ser Ser Gly Gly Ser Gly 135 140 Leu Val Pro Arg Gly Ser Ser Gly Ser Gly Asp Asp Asp Lys Ser 150 155 Ser Arg Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val 170 Pro Ser Leu Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala 185 180 Ala Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala 195 200 205 Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro

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210
                   215
                                    220
Pro Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly
       230 235 240
Gly Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His
            245
                   250 255
Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro
                          265 270
         260
Phe Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met
                       280
Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala
                    295
                                     300
Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser
                                 315
                 310
Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser
             325
                              330 335
Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln
                               350
         340
                          345
Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp
           360
                              365
Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser
                         380
        375
Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn
    390
                     395
Gln Met Asn Leu Gly Ala Thr Leu Lys Gly
             405
<210> 334
<211> 591
<212> PRT
<213> Homo sapiens
<400> 334
Met Gln His His His His His Met Ser Asp Lys Ile Ile His Leu
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Thr Asp Asp Ser Phe Asp Thr Asp Val Leu Lys Ala Asp Gly Ala Ile
          20
                            25
Leu Val Asp Phe Trp Ala Glu Trp Cys Gly Pro Cys Lys Met Ile Ala
                        40
Pro Ile Leu Asp Glu Ile Ala Asp Glu Tyr Gln Gly Lys Leu Thr Val
                     55
Ala Lys Leu Asn Ile Asp Gln Asn Pro Gly Thr Ala Pro Lys Tyr Gly
                 70
                                  75
Ile Arg Gly Ile Pro Thr Leu Leu Leu Phe Lys Asn Gly Glu Val Ala
             85
                               90
Ala Thr Lys Val Gly Ala Leu Ser Lys Gly Gln Leu Lys Glu Phe Leu
                          105
Asp Ala Asn Leu Ala Gly Ser Gly Ser Gly His Met Gln His His
                       120
                                        125
His His His Val Ser Ile Glu Gly Arg Ala Ser Ser Gly Gly Ser Gly
                   135
Leu Val Pro Arg Gly Ser Ser Gly Ser Gly Asp Asp Asp Lys Ser
                150 155 160
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Ser Arg Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala

				165					170					175	
Val	Pro	Ser	Leu 180	Gly	Gly	Gly	Gly	Gly 185	Cys	Ala	Leu	Pro	Val 190	Ser	Gly
Ala	Ala	Gln 195	Trp	Ala	Pro	Val	Leu 200	Asp	Phe	Ala	Pro	Pro 205	Gly	Ala	Ser
Ala	Tyr 210	Gly	Ser	Leu	Gly	Gly 215	Pro	Ala	Pro	Pro	Pro 220	Ala	Pro	Pro	Pro
225			Pro		230					235					240
_	_		Glu	245					250					255	
			Gly 260				_	265					270		
		275	Pro				280					285			
	290		Asn			295					300				
305			Asn		310					315					320
	_	_	His	325					330					335	
			His 340					345					350		
		355	Ser				360					365			
_	370	_	Thr			375					380				
385	-		Leu	_	390					395					400
			Asn	405					410					415	
		_	Asn 420					425					430		
		435	His				440					445			
	450		Ala			455					460				
465	_		Phe		470					475					480
			His	485					490					495	
			Cys 500					505					510		
		515	Lys				520					525			
	530		Thr			535					540				
545			Arg		550					555					560
			Gln	565					570					575	His
His	Asn	Met	His 580	Gln	Arg	Asn	Met	Thr 585	Lys	Leu	Gln	Leu	Ala 590	Leu	

<210> 335

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<212> PRT
<213> Homo sapiens
<400> 335
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Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly Gly Gly Cys Ala
                              25
Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val Leu Asp Phe Ala
                           40
Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro
                      55
Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro His Ser Phe Ile Lys
                   70
                                     75
Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu
                                  90
               85
Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly
                            105
                                               110
          100
Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro Ser Gln Ala Ser
       115
                         120
Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys
                                         140
                      135
Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr
                  150
                                     155
Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala
                                 170
              165
Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln
                             185
          180
Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly
                                            205
                         200
Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu
                     215
                                        220
Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu
    230
                       235
Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly
               245
<210> 336
<211> 188
<212> PRT
<213> Homo sapiens
<400> 336
Met Gln His His His His His His Ser Thr Gly Tyr Glu Ser Asp
                                  10
Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr
                              25
           20
His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly Val
                           40
```

```
Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro
                         55
Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser
                                          75
                     70
His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln
                                     90
                 85
Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu
                                105
                                                     110
            100
Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys
                                                 125
                             120
Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr
                        135
    130
Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys
                    150
                                         155
Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met
                165
                                     170
His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
            180
<210> 337
<211> 324
<212> DNA
<213> Homo sapiens
<400> 337
atgcagcate accaccatea ccaeggttee gaegtgeggg acctgaaege actgetgeeg 60
qcaqttccat ccctqqqtqq cqqtqqaqqc tqcqcactqc cggttagcgg tqcaqcacag 120
tgggctccag ttctggactt cgcaccgcct ggtgcatccg catacggttc cctgggtggt 180
ccagcacete egecegeaac gececeaceg cetecacege eccegeacte etteateaaa 240
caggaaccta gctggggtgg tgcagaaccg cacgaagaac agtgcctgag cgcattctga 300
                                                                    324
gaattctgca gatatccatc acac
<210> 338
<211> 462
<212> DNA
<213> Homo sapiens
<400> 338
atgcagcatc accaccatca ccaccacgaa gaacagtgcc tgagcgcatt caccgttcac 60
tteteeggee agtteaetgg caeageegga geetgteget aegggeeett eggteeteet 120
ccgcccagcc aggcgtcatc cggccaggcc aggatgtttc ctaacgcgcc ctacctgccc 180
agetgeeteg agageeagee egetattege aateagggtt acageaeggt cacettegae 240
gggacgccca gctacggtca cacgccctcg caccatgcgg cgcagttccc caaccactca 300
ttcaagcatg aggateceat gggeeageag ggetegetgg gtgageagea gtacteggtg 360
ccgcccccgg tctatggctg ccacaccccc accgacagct gcaccggcag ccaggctttg 420
ctgctgagga cgccctacag cagtgacaat ttatactgat ga
<210> 339
<211> 405
<212> DNA
<213> Homo sapiens
<400> 339
atgcagcate accaccatea ceaccagget ttgetgetga ggacgeeeta cagcagtgae 60
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<213> Homo sapiens

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aatttatacc aaatgacatc ccagettgaa tgcatgacct ggaatcagat gaacttagga 120
gecacettaa agggecacag cacagggtae gagagegata accacacaac geceateete 180
tgcggagccc aatacagaat acacacgcac ggtgtcttca gaggcattca ggatgtgcga 240
cqtqtqcctq qaqtaqcccc qactcttgta cggtcggcat ctgagaccag tgagaaacgc 300
cccttcatgt gtgcttaccc aggctgcaat aagagatatt ttaagctgtc ccacttacag 360
                                                                   405
atgcacagca ggaagcacac tggtgagaaa ccataccagt gatga
<210> 340
<211> 339
<212> DNA
<213> Homo sapiens
<400> 340
atgcagcate accaccatea ecaccacage aggaagcaca etggtgagaa accataccag 60
tgtgacttca aggactgtga acgaaggttt tttcgttcag accagctcaa aagacaccaa 120
aggagacata caggtgtgaa accattecag tgtaaaactt gteagegaaa gtteteeegg 180
tecgaecace tgaagaecca caecaggaet catacaggtg aaaageeett cagetgtegg 240
tggccaagtt gtcagaaaaa gtttgcccgg tcagatgaat tagtccgcca tcacaacatg 300
                                                                   339
catcagagaa acatgaccaa actccagctg gcgctttga
<210> 341
<211> 1110
<212> DNA
<213> Homo sapiens
<400> 341
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gcagaaccgc acgaagaaca gtgcctgagc gcattcaccg ttcacttctc cggccagttc 120
actggcacag coggagectg tegetacggg coetteggte etceteegee cagecaggeg 180
teateeggee aggeeaggat gttteetaae gegeeetaee tgeeeagetg eetegagage 240
cagocogota ttogoaatoa gggttacago acggtcacot togacgggao goccagotac 300
ggtcacacgc cctcgcacca tgcggcgcag ttccccaacc actcattcaa gcatgaggat 360
cccatgggcc agcagggctc gctgggtgag cagcagtact cggtgccgcc cccggtctat 420
ggetgecaca eccecacega cagetgeace ggeagecagg etttgetget gaggaegece 480
tacagcagty acaatttata ccaaatgaca teccagetty aatgcatgae etggaateag 540
atgaacttag gagccacctt aaagggccac agcacagggt acgagagcga taaccacaca 600
acgcccatcc tctgcggagc ccaatacaga atacacacgc acggtgtctt cagaggcatt 660
caggatgtgc gacgtgtgcc tggagtagcc ccgactettg tacggtcggc atctgagacc 720
agtgagaaac gccccttcat gtgtgcttac ccaggctgca ataagagata ttttaagctg 780
teccaettae agatgeaeag eaggaageae aetggtgaga aaceataeea gtgtgaette 840
aaggactgtg aacgaaggtt ttttcgttca gaccagctca aaagacacca aaggagacat 900
acaggtgtga aaccattcca gtgtaaaact tgtcagcgaa agttctcccg gtccgaccac 960
ctgaagaccc acaccaggac tcatacaggt gaaaagccct tcagctgtcg gtggccaagt 1020
tgtcagaaaa agtttgcccg gtcagatgaa ttagtccgcc atcacaacat gcatcagaga 1080
                                                                   1110
aacatgacca aactccagct ggcgctttga
<210> 342
<211> 99
<212> PRT
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<400> 342

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Met Gln His His His His His Gly Ser Asp Val Arg Asp Leu Asn
                                    10
Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly Gly Gly Cys Ala
                                25
Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val Leu Asp Phe Ala
                            40
Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro
                        55
Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro Pro His Ser Phe Ile Lys
                                       75
                    70
Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu
Ser Ala Phe
<210> 343
<211> 152
<212> PRT
<213> Homo sapiens
<400> 343
Met Gln His His His His His His Glu Glu Gln Cys Leu Ser Ala
                                    10
Phe Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys
                                25
Arg Tyr Gly Pro Phe Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly
                            40
Gln Ala Arq Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu
                        55
Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp
                                        75
                    70
Gly Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe
                85
Pro Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser
          100
                              105
Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His
                           120
Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr
                       135
Pro Tyr Ser Ser Asp Asn Leu Tyr
<210> 344
<211> 133
<212> PRT
<213> Homo sapiens
<400> 344
Met Gln His His His His His Gln Ala Leu Leu Arg Thr Pro
                                    10
Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met
             20
                                 25
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Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr
                            40
Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln
                       55
Tyr Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg
                    70
Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr
                                   90
               85
Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg
                               105
           100
Tyr Phe Lys Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly
                                               125
                           120
       115
Glu Lys Pro Tyr Gln
 130
<210> 345
<211> 112
<212> PRT
<213> Homo sapiens
<400> 345
Met Gln His His His His His His Ser Arg Lys His Thr Gly Glu
                                    10
Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg
Ser Asp Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro
                            40
Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
                        55
                                           60
Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys Arg
                    70
Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg
                85
                                   90
His His Asn Met His Gln Arq Asn Met Thr Lys Leu Gln Leu Ala Leu
                               105
           100
<210> 346
<211> 369
<212> PRT
<213> Homo sapiens
<400> 346
Met Gln His His His His His His Ser Phe Ile Lys Gln Glu Pro
                                    10
Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe
                                25
            20
Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg
                            40
Tyr Gly Pro Phe Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln
                        55
                                           60
Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser
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70

75

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Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly
                              90
Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro
                       105
         100
Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu
     115
             120
Gly Glu Gln Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr
                        140
       135
Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro
                150
                                155
Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met
                              170
Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr
    180
                          185
Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln
                      200 205
Tyr Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg
  210 215
Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr
    230
                                 235
Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg
   245 250
                                              255
Tyr Phe Lys Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly
                           265
          260
Glu Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe
                       280
Arg Ser Asp Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys
                   295
                                    300
Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His
                310
                       315
Leu Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys
                             330
            325
Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val
       340 345 350
Arg His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala
                       360
Leu
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<210> 347

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 347

ggctccgacg tgcgggacct g

<210> 348

<211> 30

<212> DNA

<213> Artificial Sequence

21

<220> <223> Primer	
<400> 348 gaattctcaa agcgccagct ggagtttggt	30
<210> 349 <211> 21 <212> DNA	
<213> Artificial Sequence	
<220> <223> Primer	
<400> 349 ggctccgacg tgcgggacct g	21
<210> 350 <211> 30 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 350 gaatteteaa agegeeaget ggagtttggt	30
<210> 351 <211> 21 <212> DNA <213> Artificial Sequence	
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<400> 351 cacagcacag ggtacgagag c	21
<210> 352 <211> 30 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 352 gaatteteaa agegeeaget ggagtttggt	30
<210> 353 <211> 29 <212> DNA	

<213> Artificial Sequence	
<220> <223> Primer	
<400> 353 cacgaagaac agtgcctgag cgcattcac	29
<210> 354 <211> 32 <212> DNA	
<213> Artificial Sequence <220> <223> Primer	
<400> 354 ccggcgaatt catcagtata aattgtcact gc	32
<210> 355 <211> 24 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 355 caggetttge tgetgaggae geee	24
<210> 356 <211> 34 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 356 cacggagaat tcatcactgg tatggtttct cacc	34
<210> 357 <211> 28 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 357 cacagcagga agcacactgg tgagaaac	28
<210> 358 <211> 30	

<212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 358 ggatatctgc agaattctca aagcgccagc	30
<210> 359 <211> 22 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 359 cactccttca tcaaacagga ac	22
<210> 360 <211> 30 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 360 ggatatctgc agaattctca aagcgccagc	30
<210> 361 <211> 33 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 361 ggttccgacg tgcgggacct gaacgcactg ctg	33
<210> 362 <211> 40 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 362 ctgccggcag cagtgcgttc aggtcccgca cgtcggaacc	40
<210> 363	

<211> 35 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 363 ccggcagttc catccctggg tggcggtgga ggctg	35
<210> 364 <211> 38 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 364 cggcagtgcg cagcctccac cgccacccag ggatggaa	38
<210> 365 <211> 35 <212> DNA <213> Artificial Sequence	
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<400> 365 cgcactgccg gttagcggtg cagcacagtg ggctc	35
<210> 366 <211> 33 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
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<210> 367 <211> 38 <212> DNA <213> Artificial Sequence	
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<400> 367 cagttctgga cttcgcaccg cctggtgcat ccgcatac	38

<210> 368 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 368 cagggaaccg tatgcggatg caccaggcgg tgcgaagtc	39
<210> 369 <211> 38 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 369 ggttccctgg gtggtccagc acctccgccc gcaacgcc	38
<210> 370 <211> 38 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 370 ggcggtgggg gcgttgcggg cggaggtgct ggaccacc	38
<210> 371 <211> 40 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 371 cccaccgccc cgcactcctt catcaaacag	40
<210> 372 <211> 39 <212> DNA <213> Artificial Sequence	
<220> <223> Primer	
<400> 372 ctaggttcct gtttgatgaa ggagtgcggg ggcggtgga	39

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<210> 373
<211> 38
<212> DNA
<213> Artificial Sequence
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<223> Primer
<400> 373
                                                                          38
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<210> 374
<211> 39
<212> DNA
<213> Artificial Sequence
<220>
<223> Primer
<400> 374
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ctcaggcact gttcttcgtg cggttctgca ccaccccag
<210> 375
<211> 32
<212> DNA
<213> Artificial Sequence
<220>
<223> Primer
<400> 375
                                                                          32
gtgcctgagc gcattctgag aattctgcag at
<210> 376
<211> 34
<212> DNA
<213> Artificial Sequence
<220>
<223> Primer
<400> 376
                                                                           34
gtgtgatgga tatctgcaga attctcagaa tgcg
<210> 377
<211> 1292
<212> DNA
<213> Homo sapiens
<220>
<221> misc feature
<222> 253, 256, 517, 518, 520, 521, 522, 743, 753, 754,
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758
<223> n = A, T, C or G
<400> 377
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ggtggtggtt gcgcactgcc ggttagcggt gcagcacagt gggctccggt tctggacttc 120
gcaccgccgg gtgcatccgc acacggtccc ctgggtggtc cggcgccgcc gtcggcaccg 180
ccgccgccgc cgccgccgcc gccgcactcc ttcatcaaac agggaccgag ctggggtggc 240
gcggaactgc ackaakaaca gtacctgagc gcgttcaccg ttcactcctc cggtcaggtt 300
cactggcacg geoggggeet gtegetacgg geocctegge ecceeteege ceagecagge 360
gtcatccggc caggccagga tgtctcctag cgcgccctgc ctgcccagcc gcctcgagag 420
ccagcccgct acccgcaatc ggggctacag cacggtcacc ttcgacgggg cgtccggcta 480
\verb"cggtcacacg" ccctcgcacc" atgcggcgca gttctcsmar yyactcgtta ggcgtgagga 540
teccatggge cageagggte egetgggtga geageagtge teggegeege eeeeggeetg 600
tggccgccac acccccgccg acagctgcgc cggcagccag gctttgctgc tgagggcgcc 660
ctgtagcagc gacggtttat accaagtgac gtcccagctt gagtgcatgg cctggagtca 720
gatgageete ggggeegeet tamegggeea cakyacargg taegagageg atgateacae 780
aacgcccggc ctctgcggag cccaatacag aatacacacg cacggtgcct tcaggggcgt 840
tcagggtgtg cgccgtgtgc ctggagtagc cccgactctt gtacggtcgg catctgaggc 900
cagtgaggaa cgccccctca tgtgtgctta cccaggctgc aataggaggt atctgaagct 960
gccccgctta cagatgcacg gtaggaagca cgctggtgag agaccatacc agtgtgactt 1020
caaggactgt ggacggaggt ttttctgctc agaccggctc aaaagacacc aggggaggca 1080
tacagatgtg aagccattce agcgtaagac ctgtcagcga gggttctccc ggcccaacca 1140
cctgaagacc cacgccagga ctcatgcagg tgaaaagccc cccagctgtc ggtggtcaga 1200
ttgtcagaga aagectgeee ggtcaagtga gttggteege categegaea tgeatcagag 1260
                                                                   1292
gggcatgacc gaactccagc tggcgctttg aa
<210> 378
<211> 1291
<212> DNA
<213> Homo sapiens
<400> 378
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ggtggtggtt gcgcactgcc ggttagcggt gcaacacagt gggctccggt tctggacttc 120
gtaccgccgg gtgcgcctgt atgcggttcc ctgggtggcc cggcaccgcc gccagcgccg 180
ccgccgctgc cgccgccgcc gtcgcactcc ttcaccaaac aggaaccgag ttggggtggt 240
acagageege aegeaggaea gggeeggage geactegteg eteaeteete eggeeagtte 300
actggcacag ccggagcctg tcgctacggg cccttcggtc ctcctccgcc cagccaggcg 360
tcatccggcc aggccaggat gtttcctaac gcgccctacc tgcccagctg cctcgagagc 420
cagocogota ttogcaatca gggttacago acggtcacot togacgggac gcccagotac 480
ggtcacacgc cetegcacca tgeggegeag tteeccaacc aeteatecaa geatgaggae 540
cccatgggcc agcagggctc gccgggtgag cagcagtact cggcgccgcc cccggtctgc 600
ggctgccgca ccccaccgg cagctgcacc ggcagccagg ctttgctgct gagggcgccc 660
tacageggtg gegatetaca ecaaaegaca teccagettg gacacatgge etggaateag 720
acgaacttag gagccacctt aaagggccac ggcacagggt acgagagcga tgaccacaca 780
acgcccatcc totgcggaac ccagtacagg atacgcgcgc gcggcgtcct ccggggtact 840
caggatgtgc ggtgtgtgcc tggggtggcc ccgactcttg tgcggtcggc atctgagacc 900
agtgagaagc gcccctcat gtgtgcctac ccaggctgca ataagagaca ctttaagccg 960
tecegettge gggtgegegg eagggagege actggtgaga aaccatacea gegegaette 1020
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cegeegeege egeegeegee geacteette ateaaacagg aacegagetg gggtggtgca 660
gaaccgcacg aagaacagtg cctgagcgca ttcaccgttc acttctccgg ccagttcact 720
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aagacccaca ccaggactca tacaggtgaa aagcccttca gctgtcggtg gccaagttgt 1620
cagaaaaagt ttgcccggtc agatgaatta gtccgccatc acaacatgca tcagagaaac 1680
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Phe Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile Lys
                                  25
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Leu Pro Thr Val His Ile Gly Pro Thr Ala Phe Leu Gly Leu Gly Val

		35					40					45			
Val	Asp 50	Asn	Asn	Gly	Asn	Gly 55	Ala	Arg	Val	Gln	Arg 60	Val	Val	Gly	Ser
Ala 65	Pro	Ala	Ala	Ser	Leu 70	Gly	Ile	Ser	Thr	Gly 75	Asp	Val	Ile	Thr	Ala 80
Val	Asp	Gly	Ala	Pro 85	Ile	Asn	Ser	Ala	Thr 90	Ala	Met	Ala	Asp	Ala 95	Leu
Asn	Gly	His	His 100	Pro	Gly	Asp	Val	Ile 105	Ser	Val	Thr	Trp	Gln 110	Thr	Lys
Ser	Gly	Gly 115	Thr	Arg	Thr	Gly	Asn 120	Val	Thr	Leu	Ala	Glu 125	Gly	Pro	Pro
Ala	Glu 130	Phe	His	Ser	Phe	Ile 135	Lys	Gln	Glu	Pro	Ser 140	Trp	Gly	Gly	Ala
Glu 145	Pro	His	Glu	Glu	Gln 150	Cys	Leu	Ser	Ala	Phe 155	Thr	Val	His	Phe	Ser 160
Gly	Gln	Phe	Thr	Gly 165	Thr	Ala	Gly	Ala	Cys 170	Arg	Tyr	Gly	Pro	Phe 175	Gly
Pro	Pro	Pro	Pro 180	Ser	Gln	Ala	Ser	Ser 185	Gly	Gln	Ala	Arg	Met 190	Phe	Pro
Asn	Ala	Pro 195	Tyr	Leu	Pro	Ser	Cys 200	Leu	Glu	Ser	Gln	Pro 205	Ala	Ile	Arg
Asn	Gln 210	Gly	Tyr	Ser	Thr	Val 215	Thr	Phe	Asp	Gly	Thr 220	Pro	Ser	Tyr	Gly
His 225	Thr	Pro	Ser	His	His 230	Ala	Ala	Gln	Phe	Pro 235	Asn	His	Ser	Phe	Lys 240
His	Glu	Asp	Pro	Met 245	Gly	Gln	Gln	Gly	Ser 250	Leu	Gly	Glu	Gln	Gln 255	Tyr
Ser	Val	Pro	Pro 260		Val	Tyr	Gly	Cys 265		Thr	Pro	Thr	Asp 270	Ser	Cys
Thr	Gly	Ser 275		Ala	Leu	Leu	Leu 280		Thr	Pro	Tyr	Ser 285	Ser	Asp	Asn
Leu	Tyr 290	Gln	Met	Thr	Ser	Gln 295		Glu	Cys	Met	Thr 300		Asn	Gln	Met
Asn 305	Leu	Gly	Ala	Thr	Leu 310		Gly	His	Ser	Thr 315		Tyr	Glu	Ser	Asp 320
Asn	His	Thr	Thr	Pro	Ile	Leu	Cys	Gly	Ala	Gln	Tyr	Arg	Ile	His	Thr

325 330 335

His Gly Val Phe Arg Gly Ile Gln 340

<210> 392

<211> 568

<212> PRT

<213> Homo sapiens

<400> 392

Met Thr Ala Ala Ser Asp Asn Phe Gln Leu Ser Gln Gly Gln Gly 5 10 15

Phe Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile Lys 20 25 30

Leu Pro Thr Val His Ile Gly Pro Thr Ala Phe Leu Gly Leu Gly Val $35 \ \ \ 40 \ \ \ \ \ 45$

Val Asp Asn Asn Gly Asn Gly Ala Arg Val Gln Arg Val Val Gly Ser 50 55 60

Ala Pro Ala Ala Ser Leu Gly Ile Ser Thr Gly Asp Val Ile Thr Ala 65 70 75 80

Val Asp Gly Ala Pro Ile Asn Ser Ala Thr Ala Met Ala Asp Ala Leu 85 90 95

Asn Gly His His Pro Gly Asp Val Ile Ser Val Thr Trp Gln Thr Lys 100 105 110

Ser Gly Gly Thr Arg Thr Gly Asn Val Thr Leu Ala Glu Gly Pro Pro $115 \\ 120 \\ 125$

Ala Glu Phe Pro Leu Val Pro Arg Gly Ser Pro Met Gly Ser Asp Val 130 135 140

Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly 145 150 155 160

Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val 165 170 175

Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly 180 185 190

Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu 210 215 220

Glu 225	Gln	Cys	Leu	Ser	Ala 230	Phe	Thr	Val	His	Phe 235	Ser	Gly	Gln	Phe	Thr 240
Gly	Thr	Ala	Gly	Ala 245	Cys	Arg	Tyr	Gly	Pro 250	Phe	Gly	Pro	Pro	Pro 255	Pro
Ser	Gln	Ala	Ser 260	Ser	Gly	Gln	Ala	Arg 265	Met	Phe	Pro	Asn	Ala 270	Pro	Tyr
Leu	Pro	Ser 275	Cys	Leu	Glu	Ser	Gln 280	Pro	Ala	Ile	Arg	Asn 285	Gln	Gly	Tyr
Ser	Thr 290	Val	Thr	Phe	Asp	Gly 295	Thr	Pro	Ser	Tyr	Gly 300	His	Thr	Pro	Ser
His 305	His	Ala	Ala	Gln	Phe 310	Pro	Asn	His	Ser	Phe 315	Lys	His	Glu	Asp	Pro 320
Met	Gly	Gln	Gln	Gly 325	Ser	Leu	Gly	Glu	Gln 330	Gln	Tyr	Ser	Val	Pro 335	Pro
Pro	Val	Tyr	Gly 340	Cys	His	Thr	Pro	Thr 345	Asp	Ser	Cys	Thr	Gly 350	Ser	Gln
Ala	Leu	Leu 355	Leu	Arg	Thr	Pro	Tyr 360	Ser	Ser	Asp	Asn	Leu 365	Tyr	Gln	Met
Thr	Ser 370	Gln	Leu	Glu	Cys	Met 375	Thr	Trp	Asn	Gln	Met 380	Asn	Leu	Gly	Ala
Thr 385	Leu	Lys	Gly	His	Ser 390	Thr	Gly	Tyr	Glu	Ser 395		Asn	His	Thr	Thr 400
Pro	Ile	Leu	Cys	Gly 405	Ala	Gln	Tyr	Arg	Ile 410		Thr	His	Gly	Val 415	Phe
Arg	Gly	Ile	Gln 420	Asp	Val	Arg	Arg	Val 425		Gly	Val	Ala	Pro 430	Thr	Leu
Val	Arg	Ser 435	Ala	Ser	Glu	Thr	Ser 440		Lys	Arg	Pro	Phe 445		Cys	Ala
Tyr	Pro 450		Cys	Asn	Lys	Arg 455		Phe	Lys	Leu	Ser 460		Leu	Gln	Met
His 465		Arg	Lys	His	Thr 470		Glu	Lys	Pro	Tyr 475		Cys	Asp	Phe	Lys 480
Asp	Cys	Glu	Arg	Arg 485		Phe	Arg	Ser	Asp 490		Leu	Lys	Arg	His 495	Gln
Arg	Arg	His	Thr 500		Val	Lys	Pro	Phe 505		Cys	: Lys	Thr	Cys 510		Arg

Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr 515 520 525

Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe 530 535 540

Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn 545 550 555 560

Met Thr Lys Leu Gln Leu Ala Leu 565

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Phe Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile Lys 20 25 30

Leu Pro Thr Val His Ile Gly Pro Thr Ala Phe Leu Gly Leu Gly Val 35 40 45

Val Asp Asn Asn Gly Asn Gly Ala Arg Val Gln Arg Val Val Gly Ser 50 55 60

Ala Pro Ala Ala Ser Leu Gly Ile Ser Thr Gly Asp Val Ile Thr Ala 65 70 75 80

Val Asp Gly Ala Pro Ile Asn Ser Ala Thr Ala Met Ala Asp Ala Leu 85 90 95

Asn Gly His His Pro Gly Asp Val Ile Ser Val Thr Trp Gln Thr Lys 100 105 110

Ser Gly Gly Thr Arg Thr Gly Asn Val Thr Leu Ala Glu Gly Pro Pro 115 120 125

Ala Glu Phe Pro Leu Val Pro Arg Gly Ser Pro Met Gly Ser Asp Val 130 135 140

Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly 145 150 155 160

Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val 165 170 175

Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly
180 185 190

Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu 210 215 220

Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr 225 230 235 240

Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro 245 250 255

Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr 260 265 270

Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr 275 280 285

Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser 290 295 300

His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro 305 310 315 315

Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro 325 330 335

Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln 340 350

Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met 355 360 365

Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala 370 375 380

Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr 385 390 395 400

Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe 405 410 415

Arg Gly Ile Gln 420

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<211> 362

<212> PRT

<213> Homo sapiens

<400> 394

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Phe	Thr	Gly 35	Thr	Ala	Gly	Ala	Cys 40	Arg	Tyr	Gly	Pro	Phe 45	Gly	Pro	Pro
Pro	Pro 50	Ser	Gln	Ala	Ser	Ser 55	Gly	Gln	Ala	Arg	Met 60	Phe	Pro	Asn	Ala
Pro 65	Tyr	Leu	Pro	Ser	Cys 70	Leu	Glu	Ser	Gln	Pro 75	Ala	Ile	Arg	Asn	Gln 80
Gly	Tyr	Ser	Thr	Val 85	Thr	Phe	Asp	Gly	Thr 90	Pro	Ser	Tyr	Gly	His 95	Thr
Pro	Ser	His	His 100	Ala	Ala	Gln	Phe	Pro 105	Asn	His	Ser	Phe	Lys 110	His	Glu
Asp	Pro	Met 115	Gly	Gln	Gln	Gly	Ser 120	Leu	Gly	Glu	Gln	Gln 125	Tyr	Ser	Val
Pro	Pro 130	Pro	Val	Tyr	Gly	Cys 135	His	Thr	Pro	Thr	Asp 140	Ser	Cys	Thr	Gly
Ser 145	Gln	Ala	Leu	Leu	Leu 150	Arg	Thr	Pro	Tyr	Ser 155	Ser	Asp	Asn	Leu	Tyr 160
Gln	Met	Thr	Ser	Gln 165	Leu	Glu	Cys	Met	Thr 170	Trp	Asn	Gln	Met	Asn 175	Leu
Gly	Ala	Thr	Leu 180	Lys	Gly	His	Ser	Thr 185	Gly	Tyr	Glu	Ser	Asp 190	Asn	His
Thr	Thr	Pro 195	Ile	Leu	Cys	Gly	Ala 200	Gln	Tyr	Arg	Ile	His 205	Thr	His	Gly
Val	Phe 210	Arg	Gly	Ile		Asp 215		Arg	Arg	Val	Pro 220		Val	Ala	Pro
Thr 225	Leu	Val	Arg	Ser	Ala 230	Ser	Glu	Thr	Ser	Glu 235	Lys	Arg	Pro	Phe	Met 240
Cys	Ala	Tyr	Pro	Gly 245	Cys	Asn	Lys	Arg	Tyr 250	Phe	Lys	Leu	Ser	His 255	Leu
Gln	Met	His	Ser 260	Arg	Lys	His	Thr	Gly 265	Glu	Lys	Pro	Tyr	Gln 270	Cys	Asp
Phe	Lys	Asp 275	Cys	Glu	Arg	Arg	Phe 280	Phe	Arg	Ser	Asp	Gln 285	Leu	Lys	Arg
His	Gln	Ara	Ara	His	Thr	Glv	Val	Lvs	Pro	Phe	Gln	Cvs	Lys	Thr	Cys

295 300 290 Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr 315 310 His Thr Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys 330 Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met His Gln 345 340 Arg Asn Met Thr Lys Leu Gln Leu Ala Leu <210> 395 <211> 214 <212> PRT <213> Homo sapiens <400> 395 Met His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln 25 Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu 105 100 Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val 120 Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly 135 130 Ser Gln Ala Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr 155 150 Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu 170 165

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Gly Ala Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His
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Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly
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Val Phe Arg Gly Ile Gln
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<210> 396
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<213> Artificial Sequence
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<223> PCR primer
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<223> PCR primer
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                                                                    31
cgcgtgaatt catcactgaa tgcctctgaa g
<210> 398
<211> 31
<212> DNA
<213> Artificial Sequence
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                                                                    31
cgataagcat atgacggccg cgtccgataa c
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                                                                     31
cgcgtgaatt catcactgaa tgcctctgaa g
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<223> PCR primer
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<210> 401
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<223> PCR primer
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                                                                    28
gtctgcagcg gccgctcaaa gcgccagc
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gacgaaagca tatgcactcc ttcatcaaac
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Ser Leu Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly 7.5 Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly Val Ala Ala Gly Ser Ser Ser Ser Val Lys Trp Thr Glu Gly Gln Ser Asn His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Ser Arg Ser Asp Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr Hıs Thr Gly Lys Thr Ser Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala

Leu

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<212> PRT
<213> Homo sapiens
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Ser Pro Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Thr
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Gln Trp Ala Pro Val Leu Asp Phe Val Pro Pro Gly Ala Pro Val Cys
                         40
Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Leu Pro
                      55
Pro Pro Pro Ser His Ser Phe Thr Lys Gln Glu Pro Ser Trp Gly Gly
                  70
                                    75
Thr Glu Pro His Ala Gly Gln Gly Arg Ser Ala Leu Val Ala His Ser
                                 90
              85
Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe
                             105
           100
Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe
                                            125
                          120
Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile
                      135
                                         140
Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr
                                    155
                 150
Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Ser
                                 170
              165
Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Pro Gly Glu Gln Gln
                185
                                               190
          180
Tyr Ser Ala Pro Pro Pro Val Cys Gly Cys Arg Thr Pro Thr Gly Ser
   195 200
                                          205
Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Ala Pro Tyr Ser Gly Gly
                          220
                     215
Asp Leu His Gln Thr Thr Ser Gln Leu Gly His Met Ala Trp Asn Gln
                  230
Thr Asn Leu Gly Ala Thr Leu Lys Gly His Gly Thr Gly Tyr Glu Ser
                                 250
Asp Asp His Thr Thr Pro Ile Leu Cys Gly Thr Gln Tyr Arg Ile Arg
                             265
Ala Arg Gly Val Leu Arg Gly Thr Gln Asp Val Arg Cys Val Pro Gly
      275 280
Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg
                                         300
                      295
Pro Leu Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg His Phe Lys Pro
                   310
                                     315
Ser Arg Leu Arg Val Arg Gly Arg Glu Arg Thr Gly Glu Lys Pro Tyr
                                 330
              325
Gln Arg Asp Phe Lys Asp Arg Gly Arg Gly Leu Leu Arg Pro Asp Gln
                              345
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Leu Lys Arg His Gln Arg Gly His Thr Gly Val Lys Pro Leu Gln Cys
                          360
Glu Ala Arg Arg Arg Pro Pro Arg Pro Gly His Leu Lys Val His Thr
                      375
                                         380
Arg Thr His Thr Gly Gly Glu Pro Phe Ser Cys Arg Trp Pro Ser Cys
                        395
                  390
Gln Glu Lys Ser Ala Arg Pro Asp Glu Ser Ala Arg Arg His Asn Met
                         410
              405
His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
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           420
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<211> 414
<212> PRT
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<221> VARIANT
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Ser Leu Gly Asp Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala
                              25
Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala His
                          40
Gly Pro Leu Gly Gly Pro Ala Pro Pro Ser Ala Pro Pro Pro Pro
                      55
Pro Pro Pro Pro His Ser Phe Ile Lys Gln Gly Pro Ser Trp Gly Gly
                  70
                                      75
Ala Glu Leu His Xaa Xaa Gln Tyr Leu Ser Ala Phe Thr Val His Ser
                                  90
               85
Ser Gly Gln Val His Trp His Gly Arg Gly Leu Ser Leu Arg Ala Pro
                              105
           100
                                                110
Arg Pro Pro Ser Ala Gln Pro Gly Val Ile Arg Pro Gly Gln Asp Val
                                             125
                           120
Ser Arg Ala Leu Pro Ala Gln Pro Pro Arg Glu Pro Ala Arg Tyr Pro
                       135
                                          140
Gln Ser Gly Leu Gln His Gly His Leu Arg Arg Gly Val Arg Leu Arg
                                      155
                  150
Ser His Ala Leu Ala Pro Cys Gly Ala Val Leu Xaa Xaa Thr Arg Ala
                                  170
               165
Gly Ser His Gly Pro Ala Gly Ser Ala Gly Ala Ala Val Leu Gly Ala
                              185
           180
Ala Pro Gly Leu Trp Pro Pro His Pro Arg Arg Gln Leu Arg Arg Gln
                                             205
                          200
       195
Pro Gly Phe Ala Ala Glu Gly Ala Leu Gln Arg Arg Phe Ile Pro Ser
                                          220
                      215
Asp Val Pro Ala Val His Gly Leu Glu Ser Asp Glu Pro Arg Gly Arg
                                      235
                   230
```

Leu Xaa Gly Pro Xaa Xaa Xaa Val Arg Glu Arg Ser His Asn Ala Arg

```
250
              245
Pro Leu Arg Ser Pro Ile Gln Asn Thr His Ala Arg Cys Leu Gln Gly
     260 265 270
Arg Ser Gly Cys Ala Pro Cys Ala Trp Ser Ser Pro Asp Ser Cys Thr
           280
                                           285
Val Gly Ile Gly Gln Gly Thr Pro Pro His Val Cys Leu Pro Arg Leu
                                       300
                     295
Gln Glu Val Ser Glu Ala Ala Pro Leu Thr Asp Ala Arg Glu Ala Arg
                                    315
                  310
Trp Glu Thr Ile Pro Val Leu Gln Gly Leu Trp Thr Glu Val Phe Leu
                                330
              325
Leu Arg Pro Ala Gln Lys Thr Pro Gly Glu Ala Tyr Arg Cys Glu Ala
                             345
Ile Pro Ala Asp Leu Ser Ala Arg Val Leu Pro Ala Gln Pro Pro Glu
                                 365
                         360
Asp Pro Arg Gln Asp Ser Cys Arg Lys Ala Pro Gln Leu Ser Val Val
                     375
                                       380
Arg Leu Ser Glu Lys Ala Cys Pro Val Lys Val Gly Pro Pro Ser Arg
                      395
               390
His Ala Ser Glu Gly His Asp Arg Thr Pro Ala Gly Ala Leu
              405
                                410
<210> 407
<211> 417
<212> PRT
<213> Homo sapiens
<400> 407
Met Gly Ser Asp Val Arg Asp Leu Ser Ala Leu Leu Pro Thr Ala Pro
Ser Leu Gly Gly Gly Asp Cys Thr Leu Pro Val Ser Gly Thr Ala
                             25
           20
Gln Trp Ala Pro Val Pro Ala Ser Ala Pro Pro Gly Ala Ser Ala Tyr
                         40
Asp Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro
                                        60
                     55
Pro Pro Pro Pro His Ser Cys Gly Glu Gln Gly Pro Ser Trp Gly Gly
                                    75
Ala Glu Pro Arg Glu Gly Gln Cys Leu Ser Ala Pro Ala Val Arg Phe
                                 90
Ser Gly Arg Phe Thr Gly Thr Val Gly Ala Cys Arg Tyr Gly Pro Leu
                             105
           100
Gly Pro Pro Pro Ser Gln Ala Pro Ser Gly Gln Thr Arg Met Leu
                                           125
                         120
Pro Ser Ala Pro Tyr Leu Ser Ser Cys Leu Arg Ser Arg Ser Ala Ile
                     135
Arg Ser Gln Gly Arg Ser Thr Ala Pro Ser Ala Gly Arg Pro Ala Met
                                    155
                  150
Ala Pro Thr Leu Ala Pro Pro Ala Gln Ser His Tyr Ser Gln His Gly
```

170

Val Leu His Gly Pro Ala Gly Leu Ala Gly Ala Ala Val Leu Gly Ala 180 185 190 Ala Pro Gly Leu Trp Leu Pro His Pro His Arg Gln Leu His Arg Gln

165

```
200
                                          205
      195
Pro Gly Phe Ala Ala Glu Asp Ala Leu Gln Gln Phe Ile Pro Asn
                            220
          215
Asp Ile Pro Ala Met His Asp Leu Glu Ser Asp Glu Leu Arg Ser His
      230
                     235
Leu Lys Gly Pro Gln His Arg Val Arg Glu Arg Pro His Asn Ala His
             245
                              250 255
Pro Leu Arg Ser Pro Ile Gln Asn Thr His Ala Arg Cys Leu Gln Arg
          260
                            265
His Ser Gly Cys Ala Thr Cys Ala Trp Ser Ser Pro Asp Ser Cys Thr
      275
                        280
Val Ala Pro Glu Thr Ser Glu Asn Ala Pro Trp Cys Val Leu Pro Gly
                                      300
                     295
Leu Gln Gly Val Phe Ala Val Pro Leu Thr Gly Ala Gln Glu Ala
                310
                                  315
His Trp Asp Ala Thr Pro Val Arg Leu Gln Gly Pro Trp Thr Arg Ala
             325
                               330
Ser Pro Phe Gly Thr Ser Pro Arg Asp Thr Lys Gly Asp Ile Gln Val
         340
                           345
Arg Asn His Ser Ser Val Arg Leu Val Ser Glu Gly Ser Pro Gly Pro
                        360
                              365
Thr Thr Gly Pro Thr Pro Gly Pro Thr Arg Val Gly Ser Pro Ser Ala
                    375
Ala Gly Gly Gln Ala Ala Arg Glu Gly Ser Pro Ser Gln Thr Asn Ser
                                   395
                 390
Val Ile Thr Thr Cys Ile Ser Glu Thr Leu Asn Ser Ser Trp Arg Phe
                               410
Glu
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<210> 408
<211> 429
<212> PRT
<213> Homo sapiens
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<400> 408

Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro 10 Ser Leu Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala 25 Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr 40 Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro 55 Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly 70 75 Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe 85 90 Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe 105 110 100 Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe 115 120 Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile

```
140
   130
                    135
Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr
     150 155 160
Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe
             165
                  170
Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln
                           185 190
Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser
                        200
Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp
                                       220
                     215
Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln
                                  235
                 230
Met Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser
             245
                              250
Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His
                           265
         260
Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly
                       280
                                         285
      275
Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg
                                      300
                    295
Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu
                                   315
                 310
Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr
              325
                                330
Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln
         340
                            345
Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys
                        360
Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His
                    375
Thr Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser
     390
                                   395
Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His His Asn
             405
                     410
Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
           420
                            425
```

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<210> 409
<211> 495
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<400> 409

 Met Ala Ala Pro Gly Ala Arg Arg Ser Leu Leu Leu Leu Leu Leu Leu Ala 1
 5
 10
 15

 Gly Leu Ala His Gly Ala Ser Ala Leu Phe Glu Asp Leu Met Gly Ser 20
 20
 25
 30

 Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro Ser Leu Gly 35
 40
 45

 Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala 50
 55
 60

 Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu

<211> 493 <212> PRT

<213> Homo sapiens

65					70					75					80
	Gly	Pro	Ala	Pro 85		Pro	Ala	Pro	Pro 90		Pro	Pro	Pro	Pro 95	
Ser	Phe	Ile	Lys 100	Gln	Glu	Pro	Ser	Trp 105	Gly	Gly	Ala	Glu	Pro 110	His	Glu
		115	Leu				120					125			
_	130		Gly			135					140				
145			Ser		150					155					160
			Cys	165					170					175	
			Thr 180					185					190		
		195	Ala				200					205			
	210		Gln			215					220				
225		-	Gly	_	230					235					240
			Leu	245					250					255	
			Leu 260					265					270		
		275	Gly				280					285			
	290		Cys			295					300				
305			Gln		310					315					320
			Ala	325					330					335	
			Cys 340					345					350		
		355	Lys				360					365			
	370		Arg			375					380				
385					390					395					Arg 400
_			Arg	405					410					415	
			Pro 420					425					430		
Ala	Arg	Ser 435	Asp	Glu	Leu	Val	Arg 440	His	His	Asn	Met	His 445	Gln	Arg	Asn
	450		Leu			455					460				
465		_			470					475					Ala 480
Tyr	Leu	Ile	Gly	Arg 485		Arg	Ser	His	Ala 490		Tyr	Gln	Thr	Ile 495	

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<210> 410
<211> 504
<212> PRT
<213> Homo sapiens
<400> 410
Met Gln Ile Phe Val Lys Thr Leu Thr Gly Lys Thr Ile Thr Leu Glu
                                 10
Val Glu Pro Ser Asp Thr Ile Glu Asn Val Lys Ala Lys Ile Gln Asp
                             25
Lys Glu Gly Ile Pro Pro Asp Gln Gln Arg Leu Ile Phe Ala Gly Lys
                          40
Gln Leu Glu Asp Gly Arg Thr Leu Ser Asp Tyr Asn Ile Gln Lys Glu
                      55
Ser Thr Leu His Leu Val Leu Arg Leu Arg Gly Ala Met Gly Ser Asp
                 70
                                    75
Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly
                      90
              85
Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro
                                               110
                           105
          100
Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly
                         120
                                            125
       115
Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro His
                                         140
                      135
Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu
                                     155
                  150
Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr
                                 170
             165
Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro
                             185
Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr
                         200
Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr
                      215
                                        220
   210
Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser
                                    235
                  230
His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro
                                  250
               245
Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro
                              265
Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln
       275
                          280
Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met
                      295
                                         300
Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala
                  310
                                     315
Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr
                                  330
              325
Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe
                                   350
           340
                             345
Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro Thr Leu
                                             365
                          360
Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met Cys Ala
```

```
380
                   375
   370
Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met
385 390 395 400
His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys
          405 410
Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg His Gln
   420 425 430
Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg
 435 440 445
Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr
                   455
Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe
                       475
                470
Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn
                             490
   485
Met Thr Lys Leu Gln Leu Ala Leu
         500
<210> 411
<211> 10
<212> PRT
<213> Homo sapiens
<400> 411
Val Leu Asp Phe Ala Pro Pro Gly Ala Ser
             5
<210> 412
<211> 15
<212> PRT
<213> Homo sapiens
<400> 412
Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala
1 5
<210> 413
<211> 15
<212> PRT
<213> Homo sapiens
<400> 413
Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu
                              10
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